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CREDIT INSTRUMENTS IN BUSINESS TRANS-ACTIONS.

THERE is no part of industrial life whose record is more strikingly indicative of the progress of the past fifty years than is the history of the extent and course of banking development. In some respects, indeed, banking had reached a high plane before the present century, but its sphere was, after all, a very limited one. That the possibilities it offered for facilitating trade were not well understood is shown by the fact that the comparatively unimportant matter of note-issue was the banking function long regarded as worthy of the most serious attention of legislators. The progress of the past century has shown the error of this view. "The check and the clearing system are the main lines upon which banking is destined to run,"—on which it has run for a generation. The issue of notes is no longer regarded as a necessity either for the welfare of the bank or for that of the public. "To us the living fact is the substitution of a new instrument of credit,"—the check.

The growth of the use of the check is a phenomenon not less important practically than it is interesting historically. The agitation of the money question during the past twenty years has lent a new importance to the part played by the check in the supply of currency. The vast importance of credit and its instruments has robbed of its simplicity the old explanation of the relation between money and prices, and has aroused earnest conflicting opinions as to the part played in the modern industrial system by money and by credit paper respectively. Some writers maintain that credit, meaning thereby *credit paper* or the *evidences of credit*, plays a larger part than does money in effecting exchanges and exerts the same influence in fixing prices; while others try to minimize the amount of credit transactions and assert that they have little effect in determining the level

of prices. The investigations which had been undertaken prior to 1894 to determine how large a proportion of credit paper enters into the paying medium of the country, were of such a character that they failed to remove all the difficulties which stood in the way of satisfactory conclusions on the matter. The information obtained was not detailed enough. It did not distinguish between kinds of business or classes of bank depositors. For this reason were undertaken the inquiries of 1894 and 1896, the data secured from which were submitted by the comptroller of the currency to the writer for an analysis and discussion to be published in his annual report.¹ The data of these two inquiries furnish the most exhaustive presentation of direct evidence ever collected on the subject, and may well be regarded as setting at rest some of the points on which differences of opinion have existed.

As has been well shown by others² there are several ways of attacking the problem of determining the part played by credit instruments in effecting exchanges. The evidence accessible may be classed as either direct or indirect. From one point of view the direct evidence consists, first, of testimony as to the habits of the people in the matter of paying by checks; second, of data from merchants as to the proportion of their sales paid for by checks. The indirect evidence is, first, the deposits made in banks, taken in the aggregate or classified according to the industrial character of the depositors; and, second, that furnished by the statistics of the clearing houses of the country.

The present paper treats of only one of these classes of evidence. It deals primarily with classified bank deposits as shown by the returns of the banks on a selected day last summer.

The circular prepared by the writer and sent to the banking institutions of the country by the comptroller of the currency called for the deposits made on the settlement day nearest the

¹ See *Report of the Comptroller* for 1894, and JOURNAL OF POLITICAL ECONOMY, March 1895.

² See, for example the excellent discussion by H. PARKER WILLIS in the JOURNAL OF POLITICAL ECONOMY for June 1896, on "Credit Devices and the Quantity Theory."

first of July last by retail dealers, wholesale dealers, and all other depositors, respectively, in gold, silver, paper currency, and checks, drafts, etc. The checks and drafts were intended to include all forms of credit paper which are used in payment of claims. The circular also asked whether the proportion of checks in the day's deposits was an average one, and for an estimate of its variation from the average, if it were not representative; whether wages were *usually* paid by check in the community where the bank is situated; and for a statement of the length of the wage period.

The circular was sent by the comptroller to all the banking institutions in the country, including national banks, state and private banks, savings banks and loan and trust companies. Replies came from about 5750.¹ Some of these gave the required information for dates so remote from July 1 that they could not be used, while others were rejected because they showed misapprehension of the questions asked or carelessness in answering them. Accordingly, only 5530 replies were classified. The data have been fully discussed by the writer in the report of the comptroller but further reflection suggests some corrections and modifications and the desirability of testing in other ways the conclusions there reached. To that end a brief summary of the discussion given will be helpful.

The returns received showed 68, 95, 95, and 92.5, as the percentages of credit instruments in the deposits of retail, wholesale, "all other," and all, business respectively. The percentages for wholesale and "all other" business were taken as substantially correct; that for retail trade was subjected to some tests and modifications. Allowance was made in that class of deposits for banks which did not report, and the result was tested by information received concerning the deposits of some forty retail houses for a whole month, and by data on the probable use of checks by our foreign population and certain industrial classes. The conclusion finally reached was that "in view

¹This number is a little larger than that given in another connection on page 20 of the comptroller's recent report, because a few returns came in late.

of all the facts, the true average percentage of checks [and other credit instruments] used in making payments in retail trade can be fixed at about 55."

The average percentage of credit instruments in mercantile business, retail and wholesale, was then fixed at 75 and the final conclusion was that 80 is a reasonable estimate of the percentage of the business of the country which is done by means of checks, drafts, and other credit instruments.

One fact of some importance was brought out concerning the error due to the incompleteness of the data obtained. It appeared from a comparison of the figures for various dates that "the fuller the returns—that is, the larger the amount of trade reached—the larger the proportion of credit instruments shown." This fact overthrows the contention that preceding investigations were unreliable because only the larger banks furnished information. The data obtained are presented in detail in the tables printed in the report of the comptroller of the currency, and such portions of these as are essential for this paper are reproduced in the following table:

A single glance at the table is sufficient to set at rest two claims which have been made by those who hold extreme and opposite opinions of the extent of the use of credit instruments. It has been asserted, on the one hand, that over 90 per cent. of all business is done by credit instruments, and, on the other, that these instruments are confined entirely "to commercial and financial transactions," that "they don't pay wages, they don't expend wages, they don't buy from the butcher, the baker, the grocer, nor the milkman; they don't pay taxes nor insurance;"¹ that "in the field of wages and retail trade money gets that room to operate which enables it to determine prices."² The figures of the table show it to be true that the much talked of 90 per cent. of credit paper is found in the wholesale and "all other" deposits; but they also show it to be untrue that in retail deposits the percentage is practically nothing.

¹ DEL MAR, *Science of Money*, p. 159.

² WALKER, in *Quarterly Journal of Economics*, October 1893, p. 73.

TABLE¹ SHOWING RETAIL, WHOLESALE, ALL OTHER, AND AGGREGATE DEPOSITS OF 3474 NATIONAL AND 2056 OTHER BANKS, ON THE SETTLEMENT DAY NEAREST TO JULY 1, 1896, TOGETHER WITH THE PERCENTAGES OF CHECKS THEREIN.

State or territory	Number of replies	Retail deposits	Per cent. checks	Wholesale deposits	Per cent. ch'ks	All other deposits	Per cent. checks	Aggregate deposits	Per cent. checks
A Alabama.....	25	\$75,406	58.7	\$132,465	92.7	\$242,342	83.4	\$450,213	82
Arizona.....	5	23,069	74.9	1,740	69.2	20,909	74.1	45,718	74.3
Arkansas.....	18	50,580	63	52,892	87.4	125,383	91.3	230,016	84.1
California.....	146	595,877	66.7	914,178	87.4	1,860,240	64.6	3,390,700	71.2
Colorado.....	52	730,773	75.9	701,212	95.5	1,039,160	92.8	2,478,808	88.6
Connecticut.....	122	511,074	60.3	526,408	92.1	1,857,256	91.6	2,894,738	86.2
Delaware.....	17	74,906	62.4	92,842	93.9	170,194	93.6	337,942	86.8
Dist. of Columbia.....	16	155,690	59.8	75,809	70.9	558,308	77.2	789,813	73.2
Florida.....	30	93,740	63.2	95,993	87.6	185,865	92.9	375,598	84.2
Georgia.....	39	131,748	61.7	211,418	86.4	261,384	85.6	604,550	80.6
Idaho.....	13	21,135	60.8	9,686	91.7	44,597	83	80,692	75.2
Illinois.....	308	1,792,591	69.7	7,220,984	96.7	9,624,582	93.2	18,696,002	92.3
Indiana.....	158	497,422	63.5	720,973	91.3	1,081,214	84.2	2,313,379	81.8
Indian Territory	8	6,973	52.7	271	59.4	21,902	86	29,146	77.7
Iowa.....	334	626,871	62.2	383,823	91.7	983,666	82.7	2,009,103	78
Kansas.....	165	277,897	67.2	115,597	89.1	846,453	91.8	1,319,210	84.2
Kentucky.....	113	415,209	77.4	345,272	95.8	631,988	88.9	1,394,408	87.1
Louisiana.....	29	186,222	72.7	613,464	93.2	853,503	80.6	1,666,089	88.3
Maine.....	111	258,213	61	333,934	93.4	772,932	88.1	1,365,269	84.2
Maryland.....	74	488,577	59.3	1,164,989	93.9	4,731,123	95.8	7,207,420	93.3
Massachusetts.....	360	2,288,237	65.8	4,520,471	95.3	19,542,966	95.6	27,452,959	93.2
Michigan.....	170	588,680	64.7	674,988	91.9	1,488,006	88.6	2,784,380	84.4
Minnesota.....	156	614,550	72	1,751,542	97.9	2,623,760	93	4,993,560	92.5
Mississippi.....	17	42,122	54.3	38,792	94.5	90,596	91.6	171,510	83.1
Missouri.....	277	1,377,500	78.2	2,748,371	96.8	3,570,665	90.8	7,716,147	90.7
Montana.....	38	169,213	71	33,846	88.7	335,343	87.9	538,492	82.7
Nebraska.....	264	327,326	60.5	177,269	94.8	1,579,815	90.2	2,089,006	85.9
Nevada.....	3	3,693	87.3	3,916	85.4	59,416	97.9	109,586	92.5
New Hampshire.....	74	105,742	53.2	130,131	89.9	892,326	91.5	1,188,199	85.9
New Jersey.....	126	977,853	63.7	1,007,614	87.1	4,281,328	91.8	6,272,283	86.6
New Mexico....	9	31,142	80.3	22,266	95.7	94,220	92.8	173,107	90.8
New York.....	510	505,694	73.3	27,641,837	97.5	113,546,667	97.5	150,591,337	96.4
North Carolina.....	26	91,287	61.8	87,490	84.2	185,328	86.5	364,105	79.7
North Dakota.....	44	79,058	60.7	29,031	91	126,815	84.8	242,536	77.1
Ohio.....	306	1,734,766	64.5	2,959,946	89.3	4,680,862	88.1	9,919,245	84.6
Oklahoma.....	9	12,354	55.7	8,973	77.8	27,879	86.5	46,334	76
Oregon.....	43	93,647	59.2	61,534	95.3	191,654	80.5	346,826	77.3
Pennsylvania.....	503	3,474,309	68.2	4,882,885	91.7	19,881,281	94.8	29,315,613	89.8
Rhode Island.....	74	217,762	60.2	301,103	88.4	987,359	91.2	1,551,466	86
South Carolina.....	14	39,962	74.6	30,523	93.9	88,649	88.6	159,134	86.1
South Dakota.....	60	105,691	65.8	16,001	85.1	127,194	88.2	248,886	78.5
Tennessee.....	68	206,286	64.1	468,177	92.1	789,453	89.7	1,466,643	86.8
Texas.....	193	472,316	61	352,860	92	750,942	82.9	1,576,745	78.4
Utah.....	15	45,534	73	37,517	84.4	174,547	91.7	257,598	87.5
Vermont.....	62	196,742	69.2	173,421	96.7	355,460	88	725,632	84.9
Virginia.....	48	122,085	60.7	107,636	89.9	623,961	92.1	843,727	86.4
Washington.....	56	165,873	56.4	172,918	87.8	309,559	83.6	648,350	77.7
West Virginia.....	37	111,804	68.7	105,976	87.2	231,099	86.1	448,879	82
Wisconsin.....	172	560,389	66	825,270	94.7	1,453,477	86.5	2,839,136	85
Wyoming.....	13	30,008	70.5	2,284	70.9	23,679	78.4	55,971	73.9
Whole country	5,530	\$26,450,930	68.1	\$63,088,438	95.3	\$205,027,316	95.1	\$302,816,176	92.6

* A review of the replies received revealed two errors in the retail deposits as given in the comptroller's report. One was in Rhode Island, the other in California. These were both errors of transcription. The system of checks used in the preparation of the tables was such as to make it impossible for errors of computation to pass undetected.

On their face the figures show that retail dealers make nearly 70 per cent. of their deposits in checks, drafts, and orders, wholesale dealers 95 per cent., and all depositors 93 per cent. Before any conclusions of value can be drawn from the returns it is necessary to determine just what they are, and what part, if any, of actual trade transactions they may be taken to represent.

First, then, the figures are statistics of *deposits*. In all previous investigations of this matter, with the exception of that of 1894, the data obtained have been "receipts" for the selected day. Deposits afford a better basis for estimating the amount of actual business done by credit instruments, especially in retail trade, because there are certain receipts of a bank which, although they may be obtained from tradesmen, are not received by them in the course of their regular business. Such are checks presented for cashing, and bills and other paper left for collection. On account of the character of the present data comparison of them with those collected at previous times must be made with caution. The total aggregate of the deposits is, of course, smaller than would be that of the receipts. The difference between the two aggregates is undoubtedly made up mainly of various forms of credit paper, which would tend to make the percentage of such paper in total receipts larger than in total deposits. A comparison of the percentages of credit paper in the statistics at different dates could not then properly be used to determine whether the tendency was towards a larger or a smaller use of credit instruments.

The classification of the deposits enables us, in the case of the retail and wholesale traders, to eliminate another cause of error in the percentage of checks and bills. The double counting of checks is prevented in the returns for both classes of depositors. A check on one bank deposited by a retail dealer in his own bank is counted among retail deposits; when it is sent by the receiving bank to the one on which it is drawn it will not be counted again in these deposits, but will appear with the "all others" class. The same is true of checks in the wholesale

deposits. All the double counting must therefore be in the deposits of the third class, and the statistics of the first two classes are more truly representative of actual business.

The amount of error of this kind which is obviated is undoubtedly considerable. In places without a clearing house the checks drawn on banks other than those in which they are deposited are exchanged and credited at the home bank on the same day. In the aggregate receipts, therefore, they would all be counted twice.

The figures of the table represent, in the second place, the deposits of each class of depositors in *all kinds* of banks, including savings institutions and safe-deposit companies. Therefore the checks included may represent more than those received from customers in the regular course of business. For example, the retail deposits of savings banks may include checks drawn by tradesmen on their accounts in commercial banks. The same is true of wholesalers. However, error due to such a cause is not large and we can nearly eliminate it by deducting the savings deposits from the totals.

In the next place, the figures obtained are incomplete, even for statistics of deposits. Of a total of 12,962 banks of all kinds to which the circular of the comptroller of the currency was sent only 5530 are represented. In order to determine the probable deposits made in all the banks of the country we must allow, therefore, for those which were not reported.

There is no good reason for supposing that if all deposits had been actually reported the percentage of checks would differ materially from that shown by the partial returns which were received. It has been alleged that although the proportion of credit instruments shown by such investigations as the one under discussion may be correct for places of considerable size it cannot hold for the country at large. "It is exactly at the national banks and among their depositors that one ought to look for the highest proportion of credit instruments. It would require but a moment of careful thought to make it clear that in no other considerable field of industry would so small a

proportion of cash be found; and to assume that the same proportions hold for the country at large is a most palpable error."¹

The returns show that this statement is not well founded. The percentage of checks in the deposits of the state and private banks is substantially the same as in those of the national banks, and the proportion of checks in the deposits of banks in small places is as high as elsewhere. The number of replies that came from cities and towns of less than 12,000 inhabitants, according to the last census, was 3450. The percentage of credit instruments in their deposits is 63.

While, however, the returns are sufficiently representative of the *proportions* of the various kinds of currency, the average deposits per bank will not be a fair average for the non-reporting banks, for the reason that these are "small banks." To get a fair estimate of the total deposits in all banks on the day selected an amount should be added for non-reporting banks based on a smaller average deposit per bank than is the average of the reporting banks.

The number of banks in places of 12,000 inhabitants or less which complied with the request for information was 3450. The average of their retail deposits was about \$2375. If we assume this amount for the average of the non-reporting banks we get for their total retail deposits on the date selected the sum of 17.8 million dollars. Adding this to the sum returned we have for the day's aggregate deposits of retail traders in the whole country, in round numbers, 44 million dollars. The checks, increased proportionately, sum up 30 million dollars. These figures are probably not far from correct. It is from them we are to deduce as well as we may the correct proportion of exchanges effected by credit paper in retail transactions. It is purposed to do so by making such corrections as appear necessary and proper in order to compare them with the estimated expenditure for "daily living" by the whole country. The result thus obtained

¹WILLARD FISHER on "Money and Credit Paper," JOURNAL OF POLITICAL ECONOMY, September 1895, p. 398.

will be subjected to tests furnished by other data and the final result will be combined with the percentages of credit paper in wholesale trade and "all other" business, so as to get a final percentage for the aggregate of all business.

May the 44 million dollars of retail deposits be taken, then, to represent the actual trade of the day, and the 30 million dollars of checks the proportion of that trade paid for by credit paper? We answer, first, Yes, because they must be the payments received from customers. We must answer, secondly, No, for a variety of reasons. In the first place these figures are subject to all the sources of error already described as inhering in the statistics furnished by the banks. They include "pay checks" which the merchants have cashed; credit paper received in course of regular trade; some received in other than the course of regular business, such as rent, pension checks, interest coupons, funds held for other people or for organizations, etc.; and checks paying for purchases extending over the usual period of credit.¹ We must answer No, again, because *the total deposits for the country are greater than the probable expenditure in retail purchases for a day*. An examination of the figures for particular states shows the same thing in many cases. This is decisive of the question. The figures of deposits, as they stand, cannot be taken to represent actual business payments. How is this discrepancy to be explained? There are various causes for the difference.

In the first place the savings deposits in savings banks and trust companies are included, so far as they were made by retail tradesmen. The deposits made in the savings banks from

¹Much has been made of another possible source of error, namely, that "while the checks deposited by a business man are approximately all the checks received by him since his last deposit, it is by no means so certain that the cash deposited will be all that has been paid in to him during the same time. Whatever cash he has had occasion to use in the interval will be largely drawn from the cash paid in during the same period."—WILLARD FISHER in JOURNAL OF POLITICAL ECONOMY, September 1895, p. 398.

To the writer it seems a pure assumption that business men are likely to pay their bills in cash more than in checks. The objection is fully met in the JOURNAL for June 1896, p. 301, and the *Report of the Comptroller of the Currency* for 1896, p. 79.

which replies were received amounted to 3.8 million dollars, of which 2.1 million dollars were checks. About one-fifth of the deposits were made by retail traders. This would give them a total of \$800,000, of which \$430,000 were checks. Subtracting these amounts from the total deposits and checks respectively, we have left 43 million dollars and 29.5 million dollars.¹

In the next place allowance must be made for deposits representing payments of bills of some standing. How much we can only guess. It may be argued, indeed, that there is no need of making any allowance for this cause, on the ground that the proportion of standing accounts paid from day to day will vary very little. That there is some reason for thinking so is proved by the fact that in the accounts of forty retail houses in Illinois, half in Chicago and half in the country, the proportion of checks was not materially different for a month from what it was for a single day. If the same condition holds for the whole country, obviously the proportion of checks in total deposits may properly enough be taken as the proportion which exists in actual payments. However this may be, we cannot go astray if we deduct something for the trade in question. How much? It cannot be more, or not much more, than the difference between the amount of the day's retail sales and the deposits made on that day.

The retail sales must equal the retail expenditure for the day and we have some means for estimating that. We may reasonably put it at thirty-five cents per capita.² This represents a

¹Of course some savings banks do a commercial as well as a savings business. The deposits of both kinds made by retail tradesmen in savings banks are taken as representing with sufficient accuracy the savings deposits in both trust companies and savings banks.

²Expenditure must not be confounded with consumption. The thirty-five cents represents only what is *purchased*. Products obtained by barter and those raised for the producer's own use would go to swell the daily per capita consumption. The average per capita daily expenditure of workers in the textile, iron and steel, and glass industries is shown by Commissioner Wright's report to be thirty-three cents. The number of those who spend considerably less than this is much larger than that of those who spend considerably more. In the report to the comptroller a per capita expenditure of fifty cents was assumed for the purpose of showing that even if an unreasonably large retail expenditure were claimed the data obtained included a great portion of it.

daily expenditure of 24.5 million dollars for 70 million people. Subtracting this amount from 43 million dollars, the total deposits minus those in the savings banks, we have left about 18 million dollars. This we assume as the amount which represents the payments made on the given day for previous purchases on account. This 18 million dollars represents the expenditure of some 50 million persons for one day, or of 1.5 millions for one month, or of 100,000 families for three months. Surely this is enough to represent the running-account portion of the deposits! If now we make the extravagant supposition that all of this amount is paid in checks we have over 11 million dollars left in our column of credit paper to represent the amount of the day's sales paid for thereby. This is 47 per cent. of the total estimated expenditure. If the per capita expenditure be taken at thirty cents the per cent. of checks in the day's receipts would be thirty-four. A per capita expenditure of forty cents would yield 52 per cent. These figures are approximately the same as were finally reached in an entirely different way in the writer's report to the comptroller of the currency. The correspondence is evidence of the substantial accuracy of the conclusion there reached that 55 per cent. of the retail trade of the country is done with checks and other instruments of credit. We shall in a moment see more evidence pointing to the correctness of this estimate.

The assumption that the whole difference between retail deposits and estimated retail expenditure represents purchases on running accounts, and the further assumption that this whole difference is paid for in checks, certainly cannot be said to be favorable to the deduction of too high a proportion of checks. Rather would the proportion deduced be below the truth. In the judgment of the writer, however, not the whole difference between deposits and expenditure should be counted as payments for purchases extending over a period. It largely represents rather *the extent to which retail purchases keep ahead of retail consumption*. It means that, taking the country as a whole, the people keep on hand from day to day for "daily living" a stock of commodities equal to a little less than half a day's supply

over and above what they need for the day. If we take this view and if we remember that there is evidence to show that the percentage of checks, etc., in retail deposits is approximately the same from day to day, we must conclude that the percentage of credit instruments in actual retail business is fairly reflected in the proportion of such instruments in the deposits.

This discussion, then, strengthens the view taken in the comptroller's report, that at least something more than half of the retail business of the country is done by means of credit paper. If the proof thus far adduced were all we had on the subject it would be enough to refute the statements of Del Mar and Walker, previously quoted, that checks and similar instruments play an unimportant part in the expenditures of the people for "daily living." But that the case may be made stronger will now be shown from some savings-bank statistics.

The savings banks are pre-eminently "the banks of the people." That is, they are patronized mainly by people of moderate means. Writing of savings banks the comptroller in his recent report¹ says: "The number of deposits in the class of \$500 or less represents 97.56 per cent. [of the number], and 70.05 per cent. of the amount, of deposits. These figures indicate that wage-earners are the principal patrons of savings institutions."²

Among the banks which replied to the comptroller's circular of last July were nearly five hundred savings banks in different parts of the country. After eliminating as well as could be done those which do a commercial as well as a savings business, we have left for the deposits of 445 of them on the day for which the statistics were gathered, \$3,838,700. Of this whole amount 54.2 per cent. was deposited in the form of checks and other credit paper. If the "people of small means" use checks

¹Page 18.

²This statement has been disputed and is at least open to some doubt. There is no direct evidence as to the industrial status of savings-bank depositors. They are certainly "people of small means," but that does not necessarily mean that they are principally wage-earners. It is likely that we shall ere long have some definite information on this point.

to such an extent in making their savings deposits they undoubtedly do so in their business generally.

There is still another bit of evidence that goes to confirm our conclusion. It is the large extent to which wages are paid by means of checks. Some 3600 odd banks reported that in their communities wages are either generally or frequently paid in checks. Doubtless some of them confused wages with salaries, but allowing for this the proof is strong that the use of checks for this purpose is more common than is generally supposed. This practice tends, of course, to encourage the use of checks by employés. The practice is very common in Arizona, Colorado, Idaho, Illinois, Indian Territory, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Oregon, Texas, Utah, Washington and Wyoming. In all these states the percentage of checks shown in the bank deposits is above the average finally determined. In other states the payment of wages in checks is but little practiced. In some of them, notably the northern ones, the practice is forbidden by law. In these same states, moreover, the wage period is so short—generally a week—that payment by check would not be feasible. In the southern states, in which checks are little used the store-order is pretty largely in use and the wage period averages somewhat longer.

There are two other matters which seem to need a word of explanation before we leave the statistics which bear on retail trade. The first is the apparent inconsistency between the high percentage of credit instruments and the relative scarcity of banking facilities in the southern states. On this point we cannot do better than quote the remarks made by Professor J. F. Crowell of Smith College at the recent meeting of the American Economic Association. Professor Crowell's long residence in the South gives great weight to his opinion. His remarks, which he has kindly put at the writer's disposal, are as follows:¹

¹ Professor Crowell has recently written the writer of this article: "As I think the matter over again I am disposed to put more rather than less confidence in this explanation of the relatively high figures for checks in these relatively cashless states."

There are some features in the trade of the states of the South which go to sustain the high percentage there. I refer to the fact that at many places the cotton and the tobacco sold by the farmers to the merchants are paid for in checks, the checks turned in at the retail stores where goods are bought and by the retail merchants deposited in bank. When this is done in a place without a bank the retail merchant becomes the banker for his customers as far as cashing checks is concerned; that is, he collects checks for deposit in bank. Thus often from a large area of country within a radius of twenty miles checks are gathered and deposited, serving to swell the proportion of checks to cash in the retail merchant's account with the bank. This seems to me to lend additional probability to the accuracy of the figures, as well as to give an explanation of the high proportion in these very states where the scarcity of cash makes checks commonly current.

The other point which seems to need explanation is one which no careful student should stumble over; yet it has seemed to cause trouble in the minds of some. It is that because the *number* of transactions which are settled by money is, or may be, larger than the number settled by credit instruments, the proportion of these instruments in business payments must be relatively small. A New York banker writes in connection with his reply to the comptroller's circular: "\$500,000 in checks do not often represent more than 500 transactions, while \$50,000 in cash represents twenty or more thousands of transactions. There are more transactions *in number* made *in one day* in New York City in *money* than are made *in a week* with checks, etc."¹ The answer is that our inquiry has to do with the *amount of business* and not the number of transactions. It may be that only a minority of the people use banks, yet that minority may do the larger part of the business of the country. We may leave the discussion of the part played by credit paper in retail trade with the assurance that none of the objections that have appeared seriously affect our conclusions.

If we turn, now, to the wholesale deposits we find the "more than 90 per cent." of credit instruments that has so long been a "bone of contention" among the disputants over this whole

¹The same thought seems to have been in the mind of the writer of the article on "Money and Credit Paper" in the JOURNAL, September 1895, p. 407.

subject. No reason appears why the average percentage shown in the returns of the banks should not be taken as representing accurately the proportion of this kind of business done by means of checks and drafts. The make-up of the third class of depositors is so fully discussed in the comptroller's report that its consideration here is not necessary. We should notice, however, that some of the checks of the retail and wholesale merchants are probably counted again in this class of deposits. The elimination of a suitable portion of these deposits in order to allow for these twice-counted checks and for purely speculative transactions, if that elimination is thought necessary, does not seriously modify the proportion of credit paper.

To what do the data point, now, as the true proportion of the demand for an exchange medium which is met by means of checks and similar devices? The figure yielded by the bank is 92.6. If we throw out the large sum of 100 million dollars for speculative business, and for checks twice counted, the per cent. becomes 90. But it is hardly correct to lump the returns for the different kinds of business in this way. What weights should we give to the percentages of the various classes in order to arrive at a true average? Obviously they should be weighted in the proportions of the relative value of the different classes of business. But who shall say what these are? There are no statistics on the subject. We know that a given value of commodities in the hands of a wholesale merchant is considerably increased when it reaches the retail tradesman, and, therefore, that for equal quantities of commodities larger amounts of exchange medium are received by the latter than by the former; but we cannot tell how much larger. It may be twice as much, though that is improbable. If, however, we assume that it is, and if we weight the per cents. of checks in retail and wholesale trade accordingly, then the average per cent. of credit paper in mercantile business becomes 70. It can hardly be smaller than this. If we add the returns for all other business, regarding it as equal to the wholesale trade in importance, the per cent. of checks in all business comes out as 75. This is the

lowest at which the percentage can with good reason be put. It is perhaps too low. The "all other" deposits include all transactions except mercantile, and should have a weight of at least two, and probably three, as compared with wholesale mercantile trade. If we assume two, the average per cent. of checks in all business becomes 78. We have at hand a valuable test of this conclusion. A few years ago it was estimated that the annual value of "all transactions in stocks, bonds, real estate, products, and services" was 130 billion dollars. That is 430 million dollars a day. Let us say 450 million dollars, since Mr. Atkinson's estimate was for 1890. The deposits made in our banks on the first of last July, as shown in our returns here discussed, were 300 million dollars, or 150 million dollars less. If only half of this extra 150 million dollars of business not presented in our statistics was done with checks, the average per cent. of checks in all business for the day mentioned becomes 79.

We may safely conclude that 75 per cent. is a fair estimate of the amount of business transactions of all kinds done with credit instruments. This is 5 per cent. less than that finally reached by the writer in the comptroller's report, but the aim here is to get a sure minimum.

Is the per cent. of credit instruments used in effecting exchanges increasing or decreasing, as the country develops? It has been asserted by various writers that the tendency is towards a decrease, and elaborate arguments have been adduced to maintain as well as to refute the assertion. But elaborate arguments are not needed, for the present statistics disprove the assertion. The per cents. of checks obtained in the various investigations are given in the table which follows, for various cities and for the whole country:

PERCENTAGE OF CHECKS IN DEPOSITS OF CITIES ON VARIOUS DATES.

Cities	June 30, 1881	Sept. 17, 1881	July 1, 1890	Sept. 17, 1890	Sept. 15, 1892	July 1, 1896 ¹	June 30, 1894 ²	July 1, 1896 ²
New York.....	98.70	98.80	96.04	95.64	92.36	97.8	64.5	79.4
Chicago	92	90.30	95.11	95.06	94.52	94.1	53.2	71.8
Boston	96.50	93.70	94.14	90.70	93.11	96.3	51.4	75.2
Philadelphia.....	96	96.40	96.19	93.48	93.92	95.5	55	78.6
Cincinnati	88	90	92.34	93.50	94.64	89.2	78.2	64.7
Baltimore	92.90	93.00	89.89	89.16	82.46	94	45.3	58.5
Pittsburg.....	90.40	86.20	92.37	90	90.02	87.8	58	59.2
Albany	93.80	96.50	92.97	96.60	95.33	80.8	72.8	69.6
Washington	60	45.80	65.27	32.65	66.65	73.2	59.8
New Orleans	89.80	80.20	90.09	82.83	87.16	89.9	62.6	75.6
Louisville	92.80	83.40	93.55	92.68	91.86	90.5	84.8
Cleveland	94	95.10	93.08	94.74	92.79	87.2	30.3	79.1
Detroit	87.50	93.50	87.31	95.61	91.82	87.1	72.1	60.1
Milwaukee	88.30	94.90	83.25	87.50	90.93	90.3	68.9	76.8
St. Louis.....	82.30	81.50	89.77	89.59	87.83	91.8	38.3	82.3
San Francisco	91.80	77.40	85.61	91.20	83.39	80.6	88.5	70
Reserve cities, except								
New York	94.38	92.35	93.68	92.27	92.74	92.3	61.5	74
Banks elsewhere	81.72	81.74	84.09	82.91	84.91	82.7	57	63.1
Whole country.....	95.13	94.09	92.50	91.04	90.61	92.5	58.5	67.4

If we use the returns from the national banks only in the present set of figures, because previous data came only from them, we have 93.4 as the average for the present time. This is higher than any preceding average except that of 1881; and this 93.4, it must be remembered, is the per cent. of credit instruments in deposits only. All the other receipts of the banks on the day under consideration would go to swell the credit-instrument side of the account and so to raise the average. Moreover, the difference between the present national-bank average and the highest ever shown is not materially greater than the difference between the averages at two dates in the same year. To conclude from such data that the proportion of checks used in business is falling off would be like asserting that the business of the country is decreasing because the total bank receipts on some of the dates in question were less than on some preceding ones. The use of checks varies to some extent at least like the use of any other highly developed tool of industry.

¹ All deposits.² Retail deposits only.

If trade is active, business men hopeful, business confidence great, credit operations will extend, and credit paper for the time will play a more important rôle, and *vice versa*. Such variations are temporary.

What now does this "75 per cent." mean? What is the true interpretation of the part played by credit instruments in our medium of exchange? It certainly is not correct to say that the 75 or 80 per cent. of credit instruments used in effecting exchanges displace 75 or 80 per cent. of money. Checks and similar instruments are to be regarded, as Professor Hadley would say, as the "flow," or the moving volume, of which bank deposits are the reservoir; just as when we speak of money in circulation we mean, or should mean, that portion of the whole available money supply of the country which is actively at work, so to speak. The "flow" of credit instruments and the "flow" of money together constitute the exchanging current whereby business transactions are effected. The proportion between the two varies and, in the opinion of the writer, varies in favor of the increase of the credit-instrument part of the whole. But that *part does not at any time represent an equal amount of money displaced*. That amount may be more or less. It would require an article as long as this already is to elaborate this point, and that must be reserved for the future.

In the writer's discussion of this subject in the JOURNAL OF POLITICAL ECONOMY for March 1895, some attention was given to the variation in the percentage of credit instruments for different population groups. This subject, too, must be reserved for future treatment, with the statement that data furnished by the replies of the banks seem to strengthen the opinions then advanced.

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